

CLAIMS

1. A method for manufacturing a porous ceramic structure which comprises: mixing a ceramic material, a foamed resin and, if necessary, a forming auxiliary;
5 forming the mixture; and then firing the thus formed body, wherein:

as the foamed resin, there is used a material in which the weight of a gas included in the foamed resin stored at 40°C for 4 weeks is 8% or more of the weight of
10 the foamed resin.

2. A method for manufacturing a porous ceramic structure which comprises: mixing a ceramic material, a foamed resin and, if necessary, a forming auxiliary;
15 forming the mixture; and then firing the thus formed body, wherein:

as the foamed resin, there is used a material in which a weight decrease ratio of a gas included in the foamed resin stored at 40°C for 4 weeks is 30% or less with
20 respect to the weight of the gas before stored.

3. The method for manufacturing the ceramic structure according to claim 1 or 2, wherein a resin of an outer shell of the foamed resin is constituted of a
25 copolymer containing 60 wt% or more of acrylonitrile and 40 wt% or less of methyl methacrylate.

4. The method for manufacturing the ceramic structure according to claim 3, wherein the resin of the outer shell of the foamed resin is constituted of a copolymer containing 60 wt% or more of acrylonitrile and 20 wt% or less of methyl methacrylate.

5. The method for manufacturing the ceramic structure according to claim 3, wherein the resin of the outer shell of the foamed resin is constituted of a copolymer containing 90 wt% or more of acrylonitrile and 10 wt% or less of methyl methacrylate.

6. The method for manufacturing the ceramic structure according to any one of claims 1 to 5, wherein 80 wt% or more of the gas included in the foamed resin is a C5 component having 5 carbon atoms.

7. The method for manufacturing the ceramic structure according to any one of claims 1 to 6, wherein the ceramic structure is a honeycomb structure.

8. The method for manufacturing the ceramic structure according to any one of claims 1 to 7, wherein the ceramic structure is a honeycomb filter which has a plurality of through holes opened in an exhaust gas inflow-side end face and an exhaust gas outflow-side end face and in which the plurality of through holes are closed

alternately in opposite end face portions.

5 9. The method for manufacturing the ceramic structure according to any one of claims 1 to 8, wherein the ceramic structure is made of, as main components, cordierite, silicon carbide (SiC), and/or silicon carbide (SiC) and metallic silicon (Si).

10 10. The method for manufacturing the ceramic structure according to any one of claims 1 to 9, wherein the average diameter of the foamed resin is in a range of 2 to 200 μm .

15 11. The method for manufacturing the ceramic structure according to any one of claims 1 to 10, wherein the thickness of a shell wall of the foamed resin is in a range of 0.01 to 1.0 μm .